

Bianca Plouffe
School of Medicine, Dentistry and Biomedical Sciences
Wellcome-Wolfson Institute for Experimental Medicine
Room 01-019
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Research Interests

Training/Positions held

2021-present Lecturer

Wellcome-Wolfson Institute for Experimental Medicine
School of Medicine, Dentistry and Biomedical Sciences
Queen's University Belfast, UK

2018-2021 Vice-Chancellor's Fellow

Wellcome-Wolfson Institute for Experimental Medicine
School of Medicine, Dentistry and Biomedical Sciences
Queen's University Belfast, UK

2012-2018 Postdoctoral Fellow

Supervisor: Prof Michel Bouvier
Research Focus: Investigation of GPCR bias and signalling using BRET-based technology
Institute for Research in Immunology and Cancer
University of Montreal, Canada

2006-2011 PhD Neuroscience

Supervisor: Prof Mario Tiberi
Project Title: Comprehensive model of G protein-coupled receptor regulation by Protein Kinase C: insight from dopamine D1 and D5 receptor studies.
Brain and Mind Research Institute
University of Ottawa, Canada

2003-2005 MSc Physiology

Supervisor: Prof Nicole Gallo-Payet
Project Title: Role of TrkA receptor in Angiotensin II AT₂ receptor signalling.
Department of Medicine
University of Sherbrooke, Canada

2000-2003 BSc Biochemistry (Coop program)

Department of Biochemistry
University of Sherbrooke, Canada

Research Interests

Dr Plouffe's research focuses on the pharmacology and signalling of G protein-coupled receptors (GPCRs). GPCRs represent the largest family of cell surface proteins (~800 members) and participate in the control of virtually all physiological functions by mediating most of our responses to hormones, neurotransmitters and environmental stimulants such as odorants, tastants and light. For this reason, GPCRs are the targets of ~50% of all prescribed drugs worldwide and the most important target of current pharmaceutical development and industry.

The Plouffe group is primarily interested in 2 aspects of GPCR pharmacology and signalling:

1- ***The spatial properties of GPCR signalling.*** In other words, how does the subcellular location of these receptors shape their cellular response?

2- ***The structural determinants of allostery and biased GPCR signalling.*** In other words, which residues tune the receptor response up or down or preferentially select a signalling pathway over another?

"Our central goal is to increase our understanding of these important aspects of GPCR signalling to propose new and better pharmacotherapeutic options (increased efficacy and reduced side effects) for a wide range of diseases".

Dr Plouffe has published her work in respected and high impact journals and her research has been recognized worldwide in prestigious Awards including Fellowships from the Canadian Institutes for Health Research and Diabetes Canada, as well as Awards from Diabetes UK, the Wellcome Trust and the UKRI Biotechnology and Biological Sciences Research Council.

Join the team!

The Plouffe group is welcoming applications from enthusiastic and ambitious students and postdoctoral researchers who wish to work at the cutting-edge of pharmacology and cellular signalling. Please contact Dr Bianca Plouffe for further information (b.plouffe@qub.ac.uk).

Current projects in the lab

- 1- To investigate the mechanisms translating Gq signalling from endosomes.
- 2- To delineate the role of secreted Frizzled related protein 2 in the pathogenesis of diabetic retinopathy.
- 3- To investigate the role of US28 subcellular location in its oncomodulatory properties in the context of glioblastoma.
- 4- To understand allosteric and biased GPCR signalling to design new therapeutic molecules.

Past and present group members

Postdoctoral Research Fellows

- Dr Carole Daly (2023-present)
- Dr Kanhaya Lal (2021-2023; co-supervision)

Technicians

- Shane Houston (2019-2020)

PhD Students

- Olivia Lucianno (2024-present; co-supervision, BBSRC/NorthWestBio DTP)
- Adam Wright (2023-present; DfE Studentship)
- Enyu Jin (2023-present; co-supervision)
- Kara Gizmul (2022-present; co-supervision, Turkish Ministry of Education Studentship)
- Akim Guseynov (2021-present; co-supervision, Horizon 2020 CITI-GENS Marie Curie studentship)
- Tianyi Ding (2019-present; co-supervision)
- Carole Daly (2019-2022; DfE Studentship)

MSc Students

- Adam Wright (MSc in Exp Medicine 2022-2023)
- Stephen Copeland (MSc in Exp Medicine 2019-2020)

BSc Students

- Niamh Jonston (Biomedical Sciences 2023-2024)
- Connor McGill (Biological Sciences 2023-2024)
- Curtis Buchanan (Biological Sciences 2023)
- Padhraig McNicoll (Biomedical Sciences 2022-2023)
- Adam McShane (Biomedical Sciences 2019-2020)

Summer Students

- Ashraf Mahmoud 2023 (Medical School, Kilimanjaro Christian Medical University College, Tanzania)
- Éloise Heulet 2019 (Advanced Biology, Université de Nantes, France)
- Lenka Toderova 2019 (Nuffield Research Placement)
- Cole Roberts 2019 (Medical School, University of Dundee, UK)

Projects

1. **R1719CEM: Investigation of the mechanisms underlying endosomal Gq signalling**
Plouffe, B., PI, School of Medicine, Dentistry and Biomedical Sciences
19/09/2022 → ...

Collaborators New York University, University of Oxford, University of Nottingham
Project: Research
2. **R2639CEM: Non-canonical G protein signalling: toward new therapeutic avenues for type 2 diabetes**
Plouffe, B., PI, School of Medicine, Dentistry and Biomedical Sciences
11/09/2019 → ...

Collaborators Columbia University
Project: Research

3. **R2636CEM: Defining key mechanisms underlying NOX4 signalling in endothelial colony-forming cells towards improved vasoreparative capacity in ischaemic disease**
 Grieve, D., PI, School of Medicine, Dentistry and Biomedical Sciences
 Medina, R., Col, School of Medicine, Dentistry and Biomedical Sciences
 Plouffe, B., Col, School of Medicine, Dentistry and Biomedical Sciences
 Simpson, D., Col, School of Medicine, Dentistry and Biomedical Sciences
 02/09/2019 → ...
 Project: Research
4. **R2552CEM: Non-canonical G protein signaling: toward new therapeutic avenues**
 Plouffe, B., PI, School of Medicine, Dentistry and Biomedical Sciences
 04/01/2019 → 17/10/2021
 Project: Research

Prizes and Awards

1. **New Investigator Award from the Biotechnology and Biological Sciences Research Council (£450,733)**
 Plouffe, Bianca (Recipient), 08 Sept 2022
 Prize: Other distinction
2. **British Heart Foundation Research Grant (co-I 10%, £282,730)**
 Plouffe, Bianca (Recipient), 29 Sept 2019
 Prize: Other distinction
3. **Early-Career Small Grant for Basic Scientist from Diabetes UK (£15,000)**
 Plouffe, Bianca (Recipient), 11 Sept 2019
 Prize: Other distinction
4. **Seed Award from the Wellcome Trust (£106,848)**
 Plouffe, Bianca (Recipient), 21 Dec 2018
 Prize: Other distinction
5. **Vice-Chancellor's Fellowship from Queen's University Belfast (U.K.) (£202,000)**
 Plouffe, Bianca (Recipient), 06 Nov 2018
 Prize: Fellowship awarded competitively
6. **Travel Award from the Institute for Research in Immunology and Cancer (Canada) (\$1000)**
 Plouffe, Bianca (Recipient), 01 Jun 2017
 Prize: Prize (including medals and awards)
7. **Étudiants-Chercheurs Étoiles Award from Fonds de la Recherche du Québec en Santé (Canada) (\$1000)**
 Plouffe, Bianca (Recipient), 01 Oct 2016
 Prize: Prize (including medals and awards)
8. **Postdoctoral Fellowship Award from Diabetes Canada (\$80,000)**
 Plouffe, Bianca (Recipient), 01 Jul 2016
 Prize: Fellowship awarded competitively
9. **Postdoctoral Fellowship Award from Fonds de la Recherche du Québec en Santé (Canada) (\$90,000) - declined**
 Plouffe, Bianca (Recipient), 01 Apr 2012
 Prize: Fellowship awarded competitively
10. **Postdoctoral Fellowship Award from the Canadian Institutes for Health Research (\$135,000)**
 Plouffe, Bianca (Recipient), 01 Apr 2012
 Prize: Fellowship awarded competitively
11. **Tuition Fee Scholarship from University of Ottawa (Canada) (\$5,500)**
 Plouffe, Bianca (Recipient), 01 Sept 2010
 Prize: Fellowship awarded competitively
12. **Best Poster Award at the 2nd Brain Health Research Day from University of Ottawa (Canada) (\$100)**
 Plouffe, Bianca (Recipient), 01 Jun 2010
 Prize: Prize (including medals and awards)
13. **Best Poster Award at the 1st Brain Health Research Day from University of Ottawa (Canada) (\$100)**
 Plouffe, Bianca (Recipient), 01 Jun 2009
 Prize: Prize (including medals and awards)
14. **Graduate/Postdoctoral Travel Award from the American Society for Biochemistry & Molecular Biology (USA) (\$1000)**
 Plouffe, Bianca (Recipient), Apr 2008
 Prize: Prize (including medals and awards)
15. **Doctoral Studentship Award from Fonds de la Recherche du Québec en Santé (Canada) (\$60,000)**
 Plouffe, Bianca (Recipient), 01 Sept 2007
 Prize: Fellowship awarded competitively

16. **Excellence Scholarship from University of Ottawa (Canada) (\$18,000)**
Plouffe, Bianca (Recipient), 01 Sept 2007
Prize: Fellowship awarded competitively
17. **Best Poster Award from Société de Neuroendocrinologie (France) (€500)**
Plouffe, Bianca (Recipient), 01 May 2005
Prize: Prize (including medals and awards)
18. **Best Oral Presentation Award from Équipe de Physiopathologie Endocrinienne (Canada) (\$200)**
Plouffe, Bianca (Recipient), 01 Sept 2004
Prize: Prize (including medals and awards)

Research outputs

1. Daly, C., Guseynov, A. A., Hahn, H., Wright, A., Tikhonova, I. G., Rojas Bie Thomsen, A., & Plouffe, B. (2023). β -arrestin-dependent and -independent endosomal G protein activation by the vasopressin type 2 receptor. *eLife*, 12, Article RP87754. <https://doi.org/10.7554/eLife.87754.3>
2. Daly, C., & Plouffe, B. (2023). G_{α_q} signalling from endosomes: a new conundrum. *British Journal of Pharmacology*. Advance online publication. <https://doi.org/10.1111/bph.16248>
3. Wright, A., Barabas, P., Curtis, T., & Plouffe, B. (2023). *Secreted frizzled related protein 2: a new target for diabetic retinopathy*. Poster session presented at Pan-Ireland Ophthalmology Day 2023, Belfast, United Kingdom.
4. Wright, A., Barabas, P., Curtis, T., & Plouffe, B. (2023). *Secreted frizzled related protein 2: a new target for diabetic retinopathy*. Poster session presented at World Sight Day 2023, Belfast, United Kingdom.
5. Wright, A., Barabas, P., Curtis, T., & Plouffe, B. (2023). *Secreted frizzled related protein 2: a new target for diabetic retinopathy*. Poster session presented at 3rd Transatlantic GPCR Symposium: Early Career Investigators 2023, virtual, online.
6. Ding, T., Guseynov, A.-A., Plouffe, B., Milligan, G., & Tikhonova, I. (2023). *Mapping allosteric sites on the chemokine receptor 4*. Poster session presented at 11th Adrenoceptor Symposium: Adrenoceptors and GPCR Signalling (satellite meeting of the 19th World Congress of Basic & Clinical Pharmacology 2023), Glasgow, United Kingdom.
7. Guseynov, A.-A., Karlov, D., Garland, S., Plouffe, B., & Tikhonova, I. (2023). *Membrane-facing allosteric sites of GPCRs: search, validation and open-source virtual screening for NTSR1*. Poster session presented at 11th Adrenoceptor Symposium: Adrenoceptors and GPCR Signalling (satellite meeting of the 19th World Congress of Basic & Clinical Pharmacology 2023), Glasgow, United Kingdom.
8. Lal, K., Guseynov, A.-A., Plouffe, B., & Tikhonova, I. (2023). *Structure-based design of PAR2 allosteric modulators*. Poster session presented at 11th Adrenoceptor Symposium: Adrenoceptors and GPCR Signalling (satellite meeting of the 19th World Congress of Basic & Clinical Pharmacology 2023), Glasgow, United Kingdom.
9. Ding, T., Plouffe, B., & Tikhonova, I. (2023). *Mapping allosteric sites on the chemokine receptor 4*. Poster session presented at 8th European Research Network on Signal Transduction Conference 2023, Crete, Greece.
10. Lal, K., Guseynov, A.-A., Plouffe, B., & Tikhonova, I. (2023). *Structure-based design of PAR2 allosteric modulators*. Poster session presented at 8th European Research Network on Signal Transduction Conference 2023, Crete, Greece.
11. Daly, C., & Plouffe, B. (2022). *G protein selectivity and gene regulation by US28 are shaped by the presence or absence of chemokines*. Poster session presented at 2nd International Research Network i-GPCRnet Annual Meeting 2022, Wurzburg, Germany.
12. Heydenreich, F. M., Plouffe, B., Rizk, A., Milic, D., Zhou, J., Breton, B., Le Gouill, C., Inoue, A., Bouvier, M., & Veprintsev, D. (2022). Michaelis-Menten quantification of ligand signalling bias applied to the promiscuous Vasopressin V2 receptor. *Molecular Pharmacology*, 102(2), 139-149. <https://doi.org/10.1124/molpharm.122.000497>
13. Guseynov, A.-A., Karlov, D., Garland, S., Plouffe, B., & Tikhonova, I. (2022). *Molecular simulations studies to detect allosteric sites of neurotensin receptor 1*. Poster session presented at British Biophysical Society Biennial Meeting 2022, Galway, Ireland.
14. Guseynov, A.-A., Karlov, D., Garland, S., Plouffe, B., & Tikhonova, I. (2022). *Probe-confined MD simulations for the detection of allosteric sites on neurotensin receptor 1*. Poster session presented at 8th Annual CCPBioSim Conference - Frontiers in Biomolecular Simulation 2022, Edinburgh, United Kingdom.
15. Guseynov, A.-A., Karlov, D., Garland, S., Plouffe, B., & Tikhonova, I. (2022). *Neurotensin receptor 1 allosteric sites explored by probe molecular dynamics simulations and BRET-based assays*. Poster session presented at 6th European Research Network on Signal Transduction Conference 2022, virtual, online.
16. Daly, C., Heukers, R., Evergren, E., J Smit, M., & Plouffe, B. (2022). *G protein selectivity and gene regulation by US28 are shaped by the presence or absence of chemokines*. Poster session presented at 6th European Research Network on Signal Transduction Conference 2022, virtual, online.

17. Plouffe, B., Karamitri, A., Flock, T., Gallion, J. M., Houston, S., Daly, C. A., Bonnefond, A., Guillaume, J.-L., Le Gouill, C., Froguel, P., Lichtarge, O., Deupi, X., Jockers, R., & Bouvier, M. (2022). Structural elements directing G proteins and β -arrestin interactions with the human melatonin type 2 receptor revealed by natural variants. *ACS Pharmacology & Translational Science*, 5(2), 89-101. <https://doi.org/10.1021/acspsci.1c00239>
18. Hegron, A., Huh, E., Deupi, X., Socrat, B., Gao, W., Le Gouill, C., Canouil, M., Boissel, M., Charpentier, G., Roussel, R., Froguel, P., Plouffe, B., Bonnefond, A., Lichtarge, O., Jockers, R., & Bouvier, M. (2021). Identification of Key Regions Mediating Human Melatonin Type 1 Receptor Functional Selectivity Revealed by Natural Variants. *ACS Pharmacology & Translational Science*, 4(5), 1614-1627. <https://doi.org/10.1021/acspsci.1c00157>
19. Guseynov, A.-A., Garland, S., Tikhonova, I., & Plouffe, B. (2021). *Optimising BRET Assays to Measure NTSR1 Signalling Bias*. Poster session presented at 5th European Research Network on Signal Transduction, Bari, Italy.
20. Daly, C., Heukers, R., Evergren, E., J Smit, M., & Plouffe, B. (2021). *The viral GPCR US28 activates Gq from early endosomes: potential for alternative therapeutics for glioblastoma*. Poster session presented at 1st Transatlantic ECI GPCR Symposium.
21. Brouwers, B., Mendes de Oliveira, E., Marti-Solano, M., B.F. Monteiro, F., Laurin, S.-A., M. Keogh, J., Henning, E., Bounds, R., Daly, C. A., Houston, S., Ayinampudi, V., Wasiluk, N., Clarke, D., Plouffe, B., Bouvier, M., Babu, M. M., Farooqi, I. S., & Mokrosinski, J. (2021). Human MC4R variants affect endocytosis, trafficking and dimerization revealing multiple cellular mechanisms involved in weight regulation. *Cell Reports*, 34(12), Article 108862. <https://doi.org/10.1016/j.celrep.2021.108862>
22. Imam, A., C. Winnebeck, E., Buchholz, N., Froguel, P., Bonnefond, A., Solimena, M., Ivanova, A., Bouvier, M., Plouffe, B., Charpentier, G., Karamitri, A., Jockers, R., Roenneberg, T., & Vetter, C. (2020). Circadian, sleep and caloric intake phenotyping in Type 2 Diabetes patients with rare melatonin receptor 2 mutations and controls: A Pilot Study. *Frontiers in Physiology*, 11, Article 564140. <https://doi.org/10.3389/fphys.2020.564140>
23. Daly, C., J Smit, M., & Plouffe, B. (2020). The constitutive activity of the viral-encoded G protein-coupled receptor US28 supports a complex signalling network contributing to cancer development. *Biochemical Society Transactions*, 48(4), 1493-1504. <https://doi.org/10.1042/BST20190988>
24. Plouffe, B., Thomsen, A. R. B., & Irannejad, R. (2020). Emerging Role of Compartmentalized G Protein-Coupled Receptor Signaling in the Cardiovascular Field. *ACS Pharmacology & Translational Science*, 3(2), 221-236. <https://doi.org/10.1021/acspsci.0c00006>
25. Mende, F., Hundahl, C., Plouffe, B., Skov, L. J., Sivertsen, B., Madsen, A. N., Lückmann, M., Diep, T. A., Offermanns, S., Frimurer, T. M., Bouvier, M., & Holst, B. (2018). Translating biased signaling in the ghrelin receptor system into differential in vivo functions. *Proceedings of the National Academy of Sciences of the United States of America*, 115(43), E10255-E10264. <https://doi.org/10.1073/pnas.1804003115>
26. Luttrell, L. M., Wang, J., Plouffe, B., Smith, J. S., Yamani, L., Kaur, S., Jean-Charles, P. Y., Gauthier, C., Lee, M. H., Pani, B., Kim, J., Ahn, S., Rajagopal, S., Reiter, E., Bouvier, M., Shenoy, S. K., Laporte, S. A., Rockman, H. A., & Lefkowitz, R. J. (2018). Manifold roles of β -arrestins in GPCR signaling elucidated with siRNA and CRISPR/Cas9. *Science Signaling*, 11(549), Article eaat7650. <https://doi.org/10.1126/scisignal.aat7650>
27. Karamitri, A., Plouffe, B., Bonnefond, A., Chen, M., Gallion, J., Guillaume, J. L., Hegron, A., Boissel, M., Canouil, M., Langenberg, C., Wareham, N. J., Le Gouill, C., Lukasheva, V., Lichtarge, O., Froguel, P., Bouvier, M., & Jockers, R. (2018). Type 2 diabetes-associated variants of the MT₂ melatonin receptor affect distinct modes of signaling. *Science Signaling*, 11(545), Article eaan6622. <https://doi.org/10.1126/scisignal.aan6622>
28. Stallaert, W., Van Der Westhuizen, E. T., Schönege, A. M., Plouffe, B., Hogue, M., Lukashova, V., Inoue, A., Ishida, S., Aoki, J., Le Gouill, C., & Bouvier, M. (2017). Purinergic receptor transactivation by the β 2-adrenergic receptor increases intracellular Ca²⁺ in nonexcitable cells. *Molecular Pharmacology*, 91(5), 533-544. <https://doi.org/10.1124/mol.116.106419>
29. Möller, D., Banerjee, A., Uzuneser, T. C., Skultety, M., Huth, T., Plouffe, B., Hübner, H., Alzheimer, C., Friedland, K., Müller, C. P., Bouvier, M., & Gmeiner, P. (2017). Discovery of G Protein-Biased Dopaminergics with a Pyrazolo[1,5-a]pyridine Substructure. *Journal of Medicinal Chemistry*, 60(7), 2908-2929. <https://doi.org/10.1021/acs.jmedchem.6b01857>
30. Cahill, T. J., Thomsen, A. R. B., Tarrasch, J. T., Plouffe, B., Nguyen, A. H., Yang, F., Huang, L. Y., Kahsai, A. W., Bassoni, D. L., Gavino, B. J., Lamerdin, J. E., Triest, S., Shukla, A. K., Berger, B., Little, J., Antar, A., Blanc, A., Qu, C. X., Chen, X., ... Lefkowitz, R. J. (2017). Distinct conformations of GPCR- β -arrestin complexes mediate desensitization, signaling, and endocytosis. *Proceedings of the National Academy of Sciences of the United States of America*, 114(10), 2562-2567. <https://doi.org/10.1073/pnas.1701529114>
31. Thomsen, A. R. B., Plouffe, B., Cahill, T. J., Shukla, A. K., Tarrasch, J. T., Dosey, A. M., Kahsai, A. W., Strachan, R. T., Pani, B., Mahoney, J. P., Huang, L., Breton, B., Heydenreich, F. M., Sunahara, R. K., Skiniotis, G., Bouvier, M., & Lefkowitz, R. J. (2016). GPCR-G Protein- β -Arrestin Super-Complex Mediates Sustained G Protein Signaling. *Cell*, 166(4), 907-919. <https://doi.org/10.1016/j.cell.2016.07.004>
32. Bradley, S. J., Wiegman, C. H., Iglesias, M. M., Kong, K. C., Butcher, A. J., Plouffe, B., Goupil, E., Bourgognon, J. M., Macedo-Hatch, T., Legouill, C., Russell, K., Laporte, S. A., König, G. M., Kostenis, E., Bouvier, M., Chung, K. F., Amrani, Y., & Tobin, A. B. (2016). Mapping physiological G protein-coupled receptor signaling pathways reveals a role for receptor phosphorylation in airway contraction. *Proceedings of the National Academy of Sciences of the United States of America*, 113(16), 4524-4529. <https://doi.org/10.1073/pnas.1521706113>

33. Plouffe, B., Karamitri, A., Jockers, R., & Bouvier, M. (2015). *Determination of signaling signature of 40 SNPs found in melatonin type 2 receptor: from ligand-bias signaling to mutation-bias signaling*. Poster session presented at Institute for Research in Immunology and Cancer Student Recruitment Event 2015, Montréal, Canada.
34. Plouffe, B., Karamitri, A., Jockers, R., & Bouvier, M. (2014). *Determination of signaling signature of 40 SNPs found in melatonin type 2 receptor: from ligand-bias signaling to mutation-bias signaling*. Poster session presented at ASCEPT-MPGPCR Joint Scientific Meeting (Australia), Melbourne, Australia.
35. Plouffe, B., Karamitri, A., Jockers, R., & Bouvier, M. (2014). *Determination of signaling signature of 40 SNPs found in melatonin type 2 receptor: from ligand-bias signaling to mutation-bias signaling*. Poster session presented at 15th GPCR Retreat (Canada), Bromont, Quebec, Canada.
36. Zhang, B., Albaker, A., Plouffe, B., Lefebvre, C., & Tiberi, M. (2014). Constitutive activities and inverse agonism in dopamine receptors. In *Advances in Pharmacology* (pp. 175-214). (Advances in Pharmacology; Vol. 70). Academic Press Inc., U.S.. <https://doi.org/10.1016/B978-0-12-417197-8.00007-9>
37. Plouffe, B., & Tiberi, M. (2013). Functional analysis of human D1 and D5 dopaminergic G protein-coupled receptors: Lessons from mutagenesis of a conserved serine residue in the cytosolic end of transmembrane region 6. In *Dopamine: Methods and Protocols* (pp. 141-180). (Methods in Molecular Biology; Vol. 964). Humana Press Inc., U.S.. https://doi.org/10.1007/978-1-62703-251-3_10
38. Plouffe, B., Yang, X., & Tiberi, M. (2012). The third intracellular loop of D1 and D5 dopaminergic receptors dictates their subtype-specific PKC-induced sensitization and desensitization in a receptor conformation-dependent manner. *Cellular Signalling*, 24(1), 106-118. <https://doi.org/10.1016/j.cellsig.2011.08.008>
39. Mahalingam, A. K., Wan, Y., Murugaiah, A. M. S., Wallinder, C., Wu, X., Plouffe, B., Botros, M., Nyberg, F., Hallberg, A., Gallo-Payet, N., & Alterman, M. (2010). Selective angiotensin II AT₂ receptor agonists with reduced CYP 450 inhibition. *Bioorganic and Medicinal Chemistry*, 18(12), 4570-4590. <https://doi.org/10.1016/j.bmc.2010.03.064>
40. Plouffe, B., D'Aoust, J. P., Laquerre, V., Liang, B., & Tiberi, M. (2010). Probing the constitutive activity among dopamine D1 and D5 receptors and their mutants. In *Methods in Enzymology* (C ed., pp. 295-328). (Methods in Enzymology; Vol. 484, No. C). Academic Press Inc., U.S.. <https://doi.org/10.1016/B978-0-12-381298-8.00016-2>
41. Paquette, B., Baptiste, C., Theriault, H., Arguin, G., Plouffe, B., & Lemay, R. (2007). In vitro irradiation of basement membrane enhances the invasiveness of breast cancer cells. *British Journal of Cancer*, 97(11), 1505-1512. <https://doi.org/10.1038/sj.bjc.6604072>
42. Murugaiah, A. M. S., Wallinder, C., Mahalingam, A. K., Wu, X., Wan, Y., Plouffe, B., Botros, M., Karlén, A., Hallberg, M., Gallo-Payet, N., & Alterman, M. (2007). Selective angiotensin II AT₂ receptor agonists devoid of the imidazole ring system. *Bioorganic and Medicinal Chemistry*, 15(22), 7166-7183. <https://doi.org/10.1016/j.bmc.2007.07.026>
43. Wu, X., Wan, Y., Mahalingam, A. K., Murugaiah, A. M. S., Plouffe, B., Botros, M., Karlén, A., Hallberg, M., Gallo-Payet, N., & Alterman, M. (2006). Selective angiotensin II AT₂ receptor agonists: Arylbenzylimidazole structure-activity relationships. *Journal of Medicinal Chemistry*, 49(24), 7160-7168. <https://doi.org/10.1021/jm0606185>
44. Plouffe, B., Guimond, M. O., Beaudry, H., & Gallo-Payet, N. (2006). Role of tyrosine kinase receptors in angiotensin II AT₂ receptor signaling: Involvement in neurite outgrowth and in p42/p44^{mapk} activation in NG108-15 cells. *Endocrinology*, 147(10), 4646-4654. <https://doi.org/10.1210/en.2005-1315>
45. Georgsson, J., Rosenström, U., Wallinder, C., Beaudry, H., Plouffe, B., Lindeberg, G., Botros, M., Nyberg, F., Karlén, A., Gallo-Payet, N., & Hallberg, A. (2006). Short pseudopeptides containing turn scaffolds with high AT₂ receptor affinity. *Bioorganic and Medicinal Chemistry*, 14(17), 5963-5972. <https://doi.org/10.1016/j.bmc.2006.05.019>
46. Georgsson, J., Sköld, C., Plouffe, B., Lindeberg, G., Botros, M., Larhed, M., Nyberg, F., Gallo-Payet, N., Gogoll, A., Karlén, A., & Hallberg, A. (2005). Angiotensin II pseudopeptides containing 1,3,5-trisubstituted benzene scaffolds with high AT₂ receptor affinity. *Journal of Medicinal Chemistry*, 48(21), 6620-6631. <https://doi.org/10.1021/jm050280z>
47. Rosenström, U., Sköld, C., Plouffe, B., Beaudry, H., Lindeberg, G., Botros, M., Nyberg, F., Wolf, G., Karlén, A., Gallo-Payet, N., & Hallberg, A. (2005). New selective AT₂ receptor ligands encompassing a γ-turn mimetic replacing the amino acid residues 4-5 of angiotensin II act as agonists. *Journal of Medicinal Chemistry*, 48(12), 4009-4024. <https://doi.org/10.1021/jm0491492>
48. Wan, Y., Wallinder, C., Plouffe, B., Beaudry, H., Mahalingam, A. K., Wu, X., Johansson, B., Holm, M., Botros, M., Karlén, A., Pettersson, A., Nyberg, F., Fändriks, L., Gallo-Payet, N., Hallberg, A., & Alterman, M. (2004). Design, synthesis, and biological evaluation, of the first selective nonpeptide AT₂ receptor agonist. *Journal of Medicinal Chemistry*, 47(24), 5995-6008. <https://doi.org/10.1021/jm049715t>

Activities

1. **Gordon Research Conference - Phosphorylation and G-Protein Mediated Signaling Networks (USA)**
 Bianca Plouffe (Invited speaker)
 09 Jun 2024 → 14 Jun 2024
 Activity: Talk or presentation types › Invited or keynote talk at national or international conference

2. **Seminar - Dept. of Pharmacology and Physiology, University of Sherbrooke (Canada)**
Bianca Plouffe (Invited speaker)
07 Jun 2024
Activity: Talk or presentation types › Public lecture/debate/seminar
3. **Endocrine Metabolic GPCRs conference 2024 (UK)**
Bianca Plouffe (Invited speaker)
23 Apr 2024
Activity: Talk or presentation types › Invited or keynote talk at national or international conference
4. **Northern Ireland Science Festival 2024**
Bianca Plouffe (Participant)
24 Feb 2024
Activity: Participating in or organising an event types › Participation in Festival/Exhibition
5. **Medical Mini Interviews examiner**
Bianca Plouffe (Examiner)
17 Jan 2024
Activity: Examination types › Other examination
6. **Biotechnology & Biological Sciences Research Council (External organisation)**
Bianca Plouffe (Member)
01 Jan 2024 → 31 Dec 2026
Activity: Membership types › Membership of external research organisation
7. **Seminar - Imperial Membrane Receptor Network, Imperial College London (UK)**
Bianca Plouffe (Invited speaker)
06 Jun 2023
Activity: Talk or presentation types › Public lecture/debate/seminar
8. **Medical Mini Interviews examiner**
Bianca Plouffe (Examiner)
15 Mar 2023
Activity: Examination types › Other examination
9. **Seminar - School of Molecular Bioscience, University of Glasgow (UK)**
Bianca Plouffe (Invited speaker)
08 Mar 2023
Activity: Talk or presentation types › Public lecture/debate/seminar
10. **Northern Ireland Science Festival 2023**
Bianca Plouffe (Participant)
18 Feb 2023
Activity: Participating in or organising an event types › Participation in Festival/Exhibition
11. **Wellcome-Wolfson Institute for Experimental Medicine (Organisational unit)**
Bianca Plouffe (Member)
16 Feb 2023 → 15 Feb 2024
Activity: Membership types › Membership of peer review panel or committee
12. **2nd iGPCRnet International Research Network on GPCRs meeting (Germany)**
Bianca Plouffe (Invited speaker)
30 Sept 2022 → 01 Oct 2022
Activity: Talk or presentation types › Invited or keynote talk at national or international conference
13. **6th European Research Network on Signal Transduction conference (online)**
Bianca Plouffe (Invited speaker)
30 Mar 2022
Activity: Talk or presentation types › Invited or keynote talk at national or international conference
14. **6th European Research Network on Signal Transduction Conference 2022**
Bianca Plouffe (Participant)
28 Mar 2022 → 31 Mar 2022
Activity: Participating in or organising an event types › Participation in conference
15. **Frontiers in Pharmacology (Journal)**
Bianca Plouffe (Guest editor)
02 Mar 2022 → 20 Jun 2023
Activity: Publication peer-review and editorial work types › Editorial activity
16. **Wellcome-Wolfson Institute for Experimental Medicine (Organisational unit)**
Bianca Plouffe (Member)
09 Feb 2022 → ...
Activity: Membership types › Membership of peer review panel or committee

17. **Medical Mini Interviews examiner**
 Bianca Plouffe (Examiner)
 13 Dec 2021
 Activity: Examination types › Other examination
18. **Seminar - Dept. of Molecular Pathobiology, New York University College of Dentistry (USA)**
 Bianca Plouffe (Invited speaker)
 26 May 2021
 Activity: Talk or presentation types › Public lecture/debate/seminar
19. **Seminar - Dept. of Pharmacy, Pharmaceutical Sciences & Biology, Bahai'I Institute for Higher Education (Iran)**
 Bianca Plouffe (Invited speaker)
 29 Nov 2020
 Activity: Talk or presentation types › Public lecture/debate/seminar
20. **Medical Mini Interviews examiner**
 Bianca Plouffe (Examiner)
 11 Mar 2020
 Activity: Examination types › Other examination
21. **Queen's University Belfast (External organisation)**
 Bianca Plouffe (Member)
 31 Jan 2020 → ...
 Activity: Membership types › Membership of peer review panel or committee
22. **Inaugural Meeting of the European Research Network in Signal Transduction - GPCR Pharmacology: Activation, Signalling and Drug Design**
 Bianca Plouffe (Participant)
 28 Oct 2019 → 30 Oct 2019
 Activity: Participating in or organising an event types › Participation in conference
23. **Biochemical Society - Cell Signaling and Intracellular Trafficking in Cancer Biology: Interplay, Targeting and Therapy (Italy)**
 Bianca Plouffe (Invited speaker)
 23 Oct 2019
 Activity: Talk or presentation types › Invited or keynote talk at national or international conference
24. **GDR3545 GPCR International Meeting (France)**
 Bianca Plouffe (Participant)
 09 Oct 2019 → 11 Oct 2019
 Activity: Participating in or organising an event types › Participation in conference
25. **Annual Research Symposium from the Centre of Membrane Proteins and Receptors (U.K.)**
 Bianca Plouffe (Participant)
 26 Sept 2019
 Activity: Participating in or organising an event types › Participation in conference
26. **Seminar - Dept. of Pharmaceutical Chemistry, Philipps University Marburg (Germany)**
 Bianca Plouffe (Invited speaker)
 12 Jun 2018
 Activity: Talk or presentation types › Public lecture/debate/seminar
27. **Seminar - Medical School, University of Nottingham (UK)**
 Bianca Plouffe (Invited speaker)
 04 Jun 2018
 Activity: Talk or presentation types › Public lecture/debate/seminar
28. **Seminar - Dept. of Medicinal Chemistry, Virginia Commonwealth University (USA)**
 Bianca Plouffe (Invited speaker)
 24 May 2018
 Activity: Talk or presentation types › Public lecture/debate/seminar
29. **Experimental Biology 2018 (USA)**
 Bianca Plouffe (Participant)
 21 Apr 2018 → 25 Apr 2018
 Activity: Participating in or organising an event types › Participation in conference
30. **18th GPCR Retreat 2017 (Canada)**
 Bianca Plouffe (Participant)
 19 Oct 2017 → 21 Oct 2017
 Activity: Participating in or organising an event types › Participation in conference
31. **Seminar - Institute for Immunology and Cancer, University of Montreal (Canada)**
 Bianca Plouffe (Invited speaker)
 30 Sept 2017
 Activity: Talk or presentation types › Public lecture/debate/seminar

32. **FASEB Science Research Conferences on GRKs and Arrestins: From Structure to Disease (USA)**
Bianca Plouffe (Participant)
18 Jun 2017 → 23 Jun 2017
Activity: Participating in or organising an event types › Participation in conference
33. **7th Scientific Day of the Institute for Research in Immunology and Cancer, University of Montreal (Canada)**
Bianca Plouffe (Invited speaker)
26 May 2017
Activity: Talk or presentation types › Invited or keynote talk at national or international conference
34. **Molecular Pharmacology Gordon Research Conference 2017 (Italy)**
Bianca Plouffe (Participant)
12 Mar 2017 → 17 Mar 2017
Activity: Participating in or organising an event types › Participation in conference
35. **Molecular Pharmacology Gordon Research Seminars (Italy)**
Bianca Plouffe (Invited speaker)
12 Mar 2017
Activity: Talk or presentation types › Invited or keynote talk at national or international conference
36. **17th GPCR Retreat (USA)**
Bianca Plouffe (Participant)
13 Oct 2016 → 15 Oct 2016
Activity: Participating in or organising an event types › Participation in conference
37. **Rencontre Louis-Philippe-Bouthillier (Canada)**
Bianca Plouffe (Participant)
01 May 2016
Activity: Participating in or organising an event types › Participation in conference
38. **Institute for Research in Immunology and Cancer Student Recruitment Event (Canada)**
Bianca Plouffe (Participant)
18 Jun 2015 → 21 Jun 2015
Activity: Participating in or organising an event types › Participation in Festival/Exhibition
39. **Seminar - Institute for Research in Immunology and Cancer, University of Montreal (Canada)**
Bianca Plouffe (Invited speaker)
24 Apr 2015
Activity: Talk or presentation types › Public lecture/debate/seminar
40. **MELA-BETES Joint Translational Call Meeting (France)**
Bianca Plouffe (Invited speaker)
20 Mar 2015
Activity: Talk or presentation types › Invited talk
41. **ASCEPT-MPGPCR Joint Scientific Meeting (Australia)**
Bianca Plouffe (Participant)
07 Dec 2014 → 11 Dec 2014
Activity: Participating in or organising an event types › Participation in conference
42. **15th GPCR Retreat (Canada)**
Bianca Plouffe (Participant)
02 Oct 2014 → 04 Oct 2014
Activity: Participating in or organising an event types › Participation in conference
43. **MELA-BETES Joint Translational Call Meeting (Germany)**
Bianca Plouffe (Invited speaker)
23 Jun 2014
Activity: Talk or presentation types › Invited talk
44. **MELA-BETES Joint Translational Call Meeting (Canada)**
Bianca Plouffe (Invited speaker)
03 Oct 2013
Activity: Talk or presentation types › Invited talk
45. **XXVIIe Symposium Groupe d'étude des protéines membranaires (Canada)**
Bianca Plouffe (Participant)
01 Jun 2013
Activity: Participating in or organising an event types › Participation in conference
46. **Molecular Pharmacology Gordon Research Conference (Italy)**
Bianca Plouffe (Participant)
21 Apr 2013 → 26 Apr 2013
Activity: Participating in or organising an event types › Participation in conference

47. **MELA-BETES Joint Translational Call Meeting (Germany)**
 Bianca Plouffe (Invited speaker)
 21 Dec 2012
 Activity: Talk or presentation types › Invited talk
48. **11th GPCR Retreat (Canada)**
 Bianca Plouffe (Participant)
 01 Jun 2010
 Activity: Participating in or organising an event types › Participation in conference
49. **2nd Annual Brain Health Research Day (Canada)**
 Bianca Plouffe (Participant)
 01 Jun 2010
 Activity: Participating in or organising an event types › Participation in conference
50. **1st Annual Brain Health Research Day (Canada)**
 Bianca Plouffe (Participant)
 01 Jun 2009
 Activity: Participating in or organising an event types › Participation in conference
51. **Molecular Pharmacology Gordon Research Conference (Italy)**
 Bianca Plouffe (Participant)
 31 May 2009 → 05 Jun 2009
 Activity: Participating in or organising an event types › Participation in conference
52. **9th GPCR Retreat (Canada)**
 Bianca Plouffe (Participant)
 01 Oct 2008
 Activity: Participating in or organising an event types › Participation in conference
53. **Experimental Biology 2008 (USA)**
 Bianca Plouffe (Participant)
 05 Apr 2008 → 09 Apr 2008
 Activity: Participating in or organising an event types › Participation in conference
54. **11th Annual Y.D. Lapierre Resident Research Day, University of Ottawa (Canada)**
 Bianca Plouffe (Participant)
 01 Dec 2007
 Activity: Participating in or organising an event types › Participation in conference
55. **8th GPCR Retreat**
 Bianca Plouffe (Participant)
 27 Sept 2007 → 29 Sept 2007
 Activity: Participating in or organising an event types › Participation in conference
56. **10th Annual Y.D. Lapierre Resident Research Day (Canada), University of Ottawa (Canada)**
 Bianca Plouffe (Participant)
 01 Dec 2006
 Activity: Participating in or organising an event types › Participation in conference
57. **7th GPCR Retreat (USA)**
 Bianca Plouffe (Participant)
 01 Oct 2006
 Activity: Participating in or organising an event types › Participation in conference
58. **7e Journée Scientifique de l'Équipe de Physiopathologie Endocrinienne (Canada)**
 Bianca Plouffe (Invited speaker)
 01 May 2005
 Activity: Talk or presentation types › Oral presentation
59. **32e Colloque de la Société de Neuroendocrinologie (France)**
 Bianca Plouffe (Participant)
 01 Sept 2004
 Activity: Participating in or organising an event types › Participation in conference
60. **6e Journée Scientifique de l'Équipe de Physiopathologie Endocrinienne (Canada)**
 Bianca Plouffe (Invited speaker)
 01 Sept 2004
 Activity: Talk or presentation types › Oral presentation

Press/Media

Guest at Dr GPCR Podcast
 Bianca Plouffe

27/07/2022
1 Media contribution